

GUIDELINE	PERFORMANCE	EXCEPTIONS & DEVIATIONS
<p>1. Lockout/Tagout Use</p> <ul style="list-style-type: none"> <li>Definitions</li> <li><u>Lockout</u> is the placement of a lock to render a device inoperable.</li> <li><u>Tagout</u> is the application of a warning device on a control indicating the control must not be used when the tag is removed by authorized persons.</li> <li>Use of keys should be controlled.</li> </ul>	<p>1. Lockout/Tagout Use</p> <ul style="list-style-type: none"> <li><a href="#">SNS Procedure 104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a> provides site-wide definitions for use of Lockout and Tagout devices. SNS ASD procedures comply with this SNS Standard.</li> <li>Lockout at SNS is the placement of a lock to render a device inoperable.</li> <li>Tagout at SNS is the application of a warning device on a control.</li> <li>Each LOTO lock is required to have only one key, which must be in the possession of the authorized employee who applied the lock.</li> </ul>	<p>1. Lockout/Tagout Use</p> <ul style="list-style-type: none"> <li>None</li> </ul>
<p>2. Lockout and Tagout Implementation</p> <ul style="list-style-type: none"> <li>If an isolating device can be locked out, it should be.</li> <li>If an isolating device can not be locked out, it should be tagged out.</li> <li>If major modifications to equipment are made, the addition of lock out capability should be considered.</li> <li>The following are example administrative controls: <ul style="list-style-type: none"> <li>Generate a list of devices that must be locked out and establish criteria for locking out</li> <li>Control the distribution of and access to keys</li> <li>For Locked components: <ul style="list-style-type: none"> <li>Specify techniques for verifying their position,</li> <li>Document when their position is changed, and</li> <li>Perform periodic checks of locked components</li> </ul> </li> </ul> </li> </ul>	<p>2. Lockout and Tagout Implementation</p> <ul style="list-style-type: none"> <li>The SNS uses locks wherever locks can possibly be applied, or where locks can be retrofitted for the purpose of isolating devices.</li> <li>Tagouts are used at SNS, with a second means of isolation, also tagged and so identified on the tag.</li> <li>It is SNS policy to design energy-isolating devices to accept a lockout device when new equipment is installed or undergoes major repair, renovation or modification.</li> <li>The SNS uses the following administrative controls: <ul style="list-style-type: none"> <li>Equipment-specific written procedures are required when there is more than one hazardous energy source, or more than one device must be applied to isolate the hazard, or it has the potential for hazardous stored energy, or it is incapable of being locked out and a second means of isolation is not possible. Such equipment or systems shall be clearly labeled.</li> <li>Duplicate keys are not allowed. The unique key remains in the possession of the authorized employee who applied the lock.</li> <li>The safety-significant Personnel Protection System (PPS) is responsible to turn off power to exposed hazardous voltages (e.g. magnets and busses) by deactivating contactors for power supply line voltage. The PPS receives feedback on contactor position as a check. LOTO is used on specific systems if any maintenance or physical contact by personnel is required.</li> </ul> </li> </ul>	<p>2. Lockout and Tagout Implementation</p> <ul style="list-style-type: none"> <li>None</li> </ul>

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<p>3. Protective Materials and Hardware</p> <ul style="list-style-type: none"> <li>Includes locks, tags, and chains.</li> <li>Lockout and Tagout devices should be singularly identified, and meet the following requirements: <ul style="list-style-type: none"> <li>Able to withstanding the environment in which they are installed.</li> <li>Standardized in size, shape, or color</li> <li>Substantial enough to prevent removal (50# pull minimum)</li> <li>Carry the name of the person applying the device</li> <li>Carry a "Warning" notice</li> </ul> </li> </ul>	<p>3. Protective Materials and Hardware</p> <ul style="list-style-type: none"> <li>LOTO materials include OSHA standard locks and tags.</li> <li>Locks and tags are singularly identified, and at SNS they meet the following OSHA requirements: <ul style="list-style-type: none"> <li>Able to withstanding the environment in which they are installed.</li> <li>Standardized in size, shape, or color</li> <li>Substantial enough to prevent removal (50# pull minimum)</li> <li>Carry the name of the person applying the device</li> <li>Carry a "Warning" notice</li> </ul> </li> </ul>	<p>3. Protective Materials and Hardware</p> <ul style="list-style-type: none"> <li>None.</li> </ul>
<p>4. Lockout/Tagout Program</p> <ul style="list-style-type: none"> <li>Establish procedures for the program.</li> </ul>	<p>4. Lockout/Tagout Program</p> <ul style="list-style-type: none"> <li>SNS Procedure <a href="#">104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a> providesite-wide definitions for use of Lockout and Tagout devices.</li> </ul>	<p>4. Lockout/Tagout Program</p> <ul style="list-style-type: none"> <li>None.</li> </ul>
<p>5. Procedures for Lockout/Tagout</p> <p>a. Procedures should include, but are not limited to following:</p> <ul style="list-style-type: none"> <li>Statement of intended use</li> <li>Specific steps for placing, removing and transferring of tags and locks</li> <li>Testing requirements to verify the isolation of the energy source</li> </ul> <p>b. Specific procedures are not required when all the following requirements are:</p> <ul style="list-style-type: none"> <li>Machine has no stored energy after shutdown</li> <li>Machine has a single, easily identifiable energy source</li> <li>Isolation of the source will completely de-energize the machine</li> <li>Machine is isolated from the energy source and locked out</li> <li>A single lockout device only is required</li> </ul>	<p>5. Procedures for Lockout/Tagout</p> <p>a. SNS Procedure <a href="#">104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a> and any equipment-specific procedures include:</p> <ul style="list-style-type: none"> <li>Statement of intended use</li> <li>Specific steps for placing, removing and transferring of tags and locks</li> <li>Testing requirements to verify the isolation of the energy source</li> </ul> <p>b. Personnel applying LOTO not covered by a specific SNS procedure follow rules in SNS Procedure <a href="#">104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a> – which includes these OSHA-defined exclusions for LOTO.</p>	<p>5. Procedures for Lockout/Tagout</p> <ul style="list-style-type: none"> <li>None.</li> </ul>

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<ul style="list-style-type: none"> <li>Lockout is under the exclusive control of authorized personnel</li> <li>Servicing does not create a hazard to other personnel</li> <li>Employer has a good accident record on the use of Lockout/Tagout</li> </ul> <p>c. Documentation of Lockout/Tagout Usage should be documented and periodically reviewed.</p>	<p>c. The policies for periodic inspection and annual certification have been established and are given in SNS Procedure <a href="#">104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a></p>	
<p>6. Application of Lockout/Tagout  The program should cover the following procedures:</p> <ol style="list-style-type: none"> <li>Preparation for Shutdown  Inform affected personnel of hazards and of controls to be used.</li> <li>Machine or Equipment Shutdown  Use established procedures.</li> <li>Equipment Isolation  Apply the lockout or tagout device.</li> <li>Affixing Locks/Tags  Securely affix tags with qualified personnel.</li> <li>Stored Energy  Render safe any stored energy and prevent any re-accumulation.</li> <li>Verification of Isolation  Before starting work, verify isolation of the device.</li> <li>Release from Lockout/Tagout  Before restoring equipment, perform the following: <ol style="list-style-type: none"> <li>Equipment/Workspace <ul style="list-style-type: none"> <li>Machine or equipment is operationally intact</li> <li>Inspect area and remove non essential items</li> <li>Person removing the tag/lock should assure that the equipment is properly</li> </ul> </li> </ol> </li> </ol>	<p>6. Application of Lockout/Tagout</p> <ol style="list-style-type: none"> <li>Shutdown planning meetings inform personnel of hazards and controls to be used.</li> <li>Equipment shutdown procedures are given in <a href="#">SNS-OPM</a> chapters 7 &amp; 8 "Detailed Procedures by System or Location"</li> <li>General and Equipment-specific LOTO procedures are used to isolate devices (see Items 1 and 2 above)</li> <li>Trained and qualified personnel (see SNS-OPM 2.G-2 <a href="#">"Electrical Safety Implementation Plan"</a>) affix tags</li> <li>Trained and qualified personnel render safe stored energy and prevent re-accumulation</li> <li>Trained and qualified personnel verify isolation of devices before work begins (SNS-<a href="#">OPM 2.G-3 "Electrical Safety Working On or Near or Working Hot Guidelines"</a>)</li> <li>Before restoring equipment  In accordance with <a href="#">SNS Procedure 104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a> <ol style="list-style-type: none"> <li>Equipment/Workspace <ul style="list-style-type: none"> <li>Personnel are trained to ensure the machine or equipment is operationally intact,</li> <li>are trained to inspect area and remove non essential items,</li> <li>are trained to assure that the equipment is properly aligned.</li> </ul> </li> </ol> </li> </ol>	<p>6. Application of Lockout/Tagout</p> <ul style="list-style-type: none"> <li>None.</li> </ul>

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<p>aligned.</p> <p>(2) Affected Personnel</p> <ul style="list-style-type: none"> <li>Check that affected personnel are safe and are informed of energization.</li> </ul> <p>(3) Lockout/Tagout Device Removal</p> <ul style="list-style-type: none"> <li>The person who applied the isolation device shall be the one to remove it.</li> <li>Document removal of tag via logbook of other methods.</li> <li>Procedures for removal by a person other than who placed the device: <ul style="list-style-type: none"> <li>Verify that the person who placed device is not available.</li> <li>Make reasonable efforts to inform the person who placed the device that it has been removed.</li> <li>Ensure that the affected personnel are informed</li> </ul> </li> </ul>	<p>(2) Affected Personnel</p> <ul style="list-style-type: none"> <li>Personnel are trained to check that affected personnel are safe and are informed of energization.</li> </ul> <p>(3) Lockout/Tagout Device Removal</p> <ul style="list-style-type: none"> <li>Personnel are trained such that the person who applied the isolation device is to be the one to remove it,</li> <li>are trained to remove tags in accordance with any required written permits, equipment-specific procedures or logbooks,</li> <li>have procedures for removal by a person other than who placed the device: <ul style="list-style-type: none"> <li>are trained to verify that the person who placed device is not available,</li> <li>are trained to make reasonable efforts to inform the person who placed the device that it has been removed,</li> <li>are trained to ensure that the affected personnel are informed.</li> </ul> </li> </ul>	
<p>7. Testing or Positioning of Equipment or Components</p> <p>When a temporary removal is required:</p> <ul style="list-style-type: none"> <li>Clear the equipment of tools and materials</li> <li>Ensure that personnel leave from the area</li> <li>Remove the lockout/tagout device</li> <li>Perform testing to assure lockout</li> <li>De-energize and reapply the lockout/tagout device</li> </ul>	<p>7. Testing or Positioning of Equipment or Components</p> <p>In accordance with <a href="#">SNS Procedure 104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a>, when testing or positioning of equipment or components, specific procedure steps include the following:</p> <ul style="list-style-type: none"> <li>Clear the equipment of tools and materials</li> <li>Ensure that personnel leave from the area</li> <li>Remove the lockout/tagout device</li> <li>Perform testing to assure lockout</li> <li>De-energize and reapply the lockout/tagout device</li> </ul>	<p>7. Testing or Positioning of Equipment or Components</p> <ul style="list-style-type: none"> <li>None.</li> </ul>

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<p>8. Periodic Inspections</p> <ul style="list-style-type: none"> <li>Perform audit for compliance with program.</li> </ul>	<p>8. Periodic Inspections</p> <ul style="list-style-type: none"> <li>In accordance with <a href="#">SNS Procedure 104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a> , SNS performs periodic inspections and annual certifications by authorized employees.</li> <li>Additionally, the SNS QA Office performs routine audits of formal programs.</li> </ul>	<p>8. Periodic Inspections</p> <ul style="list-style-type: none"> <li>None.</li> </ul>
<p>9. Caution Tags</p> <ul style="list-style-type: none"> <li>Do not use for personnel protection</li> <li>Tags should show: <ul style="list-style-type: none"> <li>Tag identification system</li> <li>Information on any precautions</li> <li>Signature of person applying the tag</li> </ul> </li> <li>Keep records of use</li> <li>Apply so that the tag does not interfere with operation of equipment.</li> </ul>	<p>9. Caution Tags</p> <p>The use of “Administrative Control Tags” and “Caution” tags is described in the ORNL Standards Based Management System (SBMS) Directive: <a href="#">“Hazard Identification Signs and Tags”</a></p> <ul style="list-style-type: none"> <li>They are not used for personnel protection</li> <li>Tags show: <ul style="list-style-type: none"> <li>tag identification system,</li> <li>information on any precautions, and</li> <li>the signature of person applying the tag.</li> </ul> </li> <li>Records of use are kept.</li> <li>Sometimes locks are used in combination with Caution or Administrative Control Tags.</li> </ul>	<p>10. Caution Tags</p> <ul style="list-style-type: none"> <li>ORNL Standards Based Management System (SBMS) Directive: <a href="#">“Hazard Identification Signs and Tags”</a> does not preclude the use of locks with Caution or Administrative Control Tags, and the non-nuclear portion of SNS has done this during construction and installation.</li> </ul>
<p>10. Training and Communication</p> <p>a. Training should include:</p> <ul style="list-style-type: none"> <li>Recognition of hazards</li> <li>Purpose of procedures</li> <li>Recognition of the Tagout/Lockout devices</li> </ul> <p>b. Training on limitations of tags</p> <ul style="list-style-type: none"> <li>Tags are warning device only, with no physical protection.</li> <li>Tags should be removed by the person who applied them.</li> <li>Tags must be legible.</li> <li>Tags must withstand environment.</li> <li>Tags must be securely attached.</li> </ul> <p>c. Training on limitation of locks</p> <p>Locks may hinder facility systems necessary for safety.</p>	<p>10. Training and Communication</p> <p>a. LOTO, Electrical Safety, and SNS specific training includes:</p> <ul style="list-style-type: none"> <li>Recognition of hazards</li> <li>Purpose of procedures</li> <li>Recognition of the Tagout/Lockout devices</li> </ul> <p>b. Personnel are trained on the following limitations on tags (see SNS-OPM 2.G-2 <a href="#">“Electrical Safety Implementation Plan”</a>)</p> <ul style="list-style-type: none"> <li>Tags are warning device only, with no physical protection</li> <li>Tags shall be removed by the person who applied them</li> <li>Tags must be legible</li> <li>Tags must withstand environment</li> <li>Tags must be securely attached</li> </ul> <p>c. Personnel are trained that locks may hinder facility systems necessary for safety.</p>	<p>10. Training and Communication</p>

**FACILITY: SNS ACCELERATOR SYSTEMS DIVISION**  
**CHAPTER: IX "LOCKOUTS & TAGOUTS"**

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<b>GUIDELINE</b>	<b>PERFORMANCE</b>	<b>EXCEPTIONS &amp; DEVIATIONS</b>
d. Retraining Provide when there is a change in job, equipment, or hazard.	d. SNS requires specific LOTO training for SNS equipment, adherence to any equipment-specific LOTO procedures, and the performance of a <a href="#">Job Hazard Analysis</a> prior to beginning work, to identify changes in equipment or hazards.	
11. Lockout or Tagout Implementation <ul style="list-style-type: none"> <li>Implementation shall be by authorized, qualified personnel only.</li> </ul>	11. Lockout or Tagout Implementation <ul style="list-style-type: none"> <li>Trained and qualified personnel are listed and records are retained by group leaders.</li> </ul>	11. Lockout or Tagout Implementation <ul style="list-style-type: none"> <li>None.</li> </ul>
12. Notification of Personnel <ul style="list-style-type: none"> <li>Notify appropriate supervisors or other personnel when lockout/tagout devices are applied or removed.</li> </ul>	12. Notification of Personnel <ul style="list-style-type: none"> <li>SNS Procedure <a href="#">104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a> establishes generic notification requirements. SNS equipment-specific written procedures may also establish specific notification requirements.</li> </ul>	12. Notification of Personnel <ul style="list-style-type: none"> <li>None.</li> </ul>
13. Outside Contractors <ul style="list-style-type: none"> <li>Plant and contractor personnel should inform each other of their requirements.</li> </ul>	13. Outside Contractors <ul style="list-style-type: none"> <li>SNS Procedure <a href="#">104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a> and the <a href="#">ORNL SBMS subject area "Lockout/Tag Out"</a> establish the responsibilities and requirements of visitors, contractors, and other ORNL Departments or Divisions working at SNS.</li> </ul>	13. Outside Contractors <ul style="list-style-type: none"> <li>None.</li> </ul>
14. Group Lockouts <ul style="list-style-type: none"> <li>Procedures must be developed for crews equivalent to procedures for personnel Lockout/Tagout.</li> </ul>	14. Group Lockouts <ul style="list-style-type: none"> <li>SNS Procedure <a href="#">104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a> establishes generic group lockout requirements. Equipment-specific written procedures are also used for lockouts beyond a simple single-source with no stored energy (see item 2).</li> </ul>	14. Group Lockouts <ul style="list-style-type: none"> <li>None.</li> </ul>
15. Shift or Personnel Changes <ul style="list-style-type: none"> <li>Procedures should be developed to assure the continuity of Lockout/Tagout protection between personnel or shifts.</li> </ul>	15. Shift or Personnel Changes <ul style="list-style-type: none"> <li>SNS Procedure <a href="#">104070400-PR0007 "Lockout/Tagout of Hazardous Energy Sources"</a> establishes generic shift and personnel change procedures for lockout/tagout.</li> </ul>	15. Shift or Personnel Changes <ul style="list-style-type: none"> <li>None.</li> </ul>